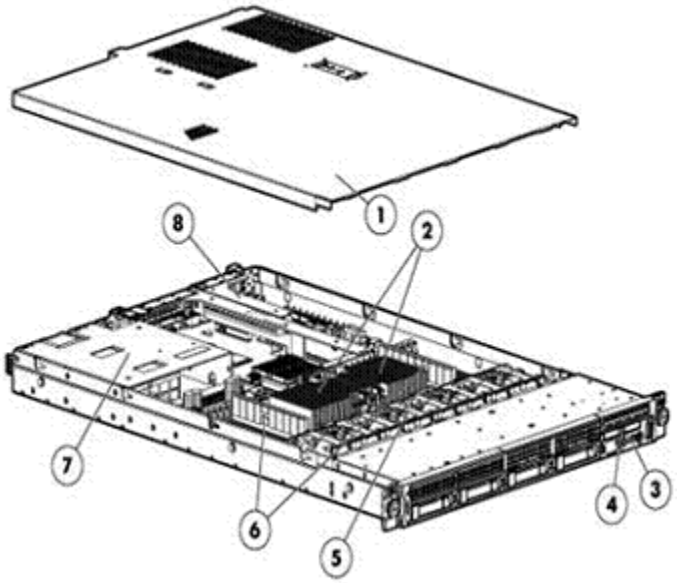
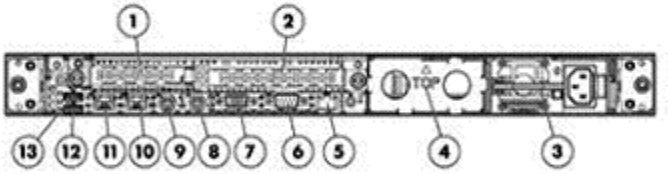
Overview





Front View:

1. Hood Cover
2. Up to two Intel Quad-Core or Dual-Core Xeon™ processors)
3. Video Connector
4. Slide-out System Insight Display
5. Removable fan modules for easy serviceability
6. Eighteen DIMM slots: DDR3 Registered (RDIMM) or Unbuffered (UDIMM) memory
7. Redundant Hot Plug Power Supplies (upgradeable option)
8. 2 PCI-E Slots

Rear View:

1. PCI Express expansion slot 1, low-profile, half-length
2. PCI Express expansion slot 2 full height full length x16 (16, 8, 4, 2, 1), 75W +EXT 75W (optional PCI-X support)
3. Power supply bay 1 (populated)
4. Power supply bay 2
5. iLO 2 NIC connector
6. Serial connector
7. Video connector
8. Mouse connector
9. Keyboard connector
10. NIC 2 connector
11. NIC 1 connector
12. USB connector
13. USB connector

What's New

- Addition of new higher performance/low power Intel® Xeon® Processor L5530 (2.40GHz, 60W) processor.

At A Glance

Combining improved 1U compute performance, smart power and cooling management with infrastructure management tools and essential fault tolerance, the HP ProLiant DL360 G6 is optimized for space constrained installations.

Latest Intel 5500 Series Xeon® Processors (Quad-Core and Dual-Core), with choice of DDR3 Registered or Unbuffered DIMMs, Serial Attached SCSI (SAS), PCI Express Gen2 technology and ProLiant Onboard Administrator provide a high performance system, ideal for the full range of scale out applications.

What's more, the DL360 G6 steps up the fault tolerant in an ultra-dense platform with redundant power, redundant fans, mirrored memory and embedded RAID capability.

- Processors:

Overview

- Up to 2 Quad-Core or Dual-Core Intel® Xeon® processor 5500 sequence
- Intel® 5520 Chipset

- Memory:
  - 18 DDR3 DIMM slots available
  - Up to 192GB, using 16GB Quad Rank PC3-8500R DDR3 Registered (RDIMM) memory, operating at 800MHz when fully populated at 2 DIMMs per Channel in 12 slots.Up to 24GB, using 2GB PC3-10600 DDR3 Unbuffered (UDIMM) memory, operating at 1333MHz when fully populated at 2 DIMMs per Channel in 12 slots.
- Storage Controller:
  - Entry Models: HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)
  - Base Models: HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
  - Performance Models: HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0)
  - High Efficiency: HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)
  - Available upgrades: 256MB, Battery kit upgrade (to add BBWC to the 256MB Memory option) or 512MB w/ BBWC, and Smart Array Advanced Pack (SAAP)
- Internal Drive Support:
  - Up to (8) small form factor (SFF) hot-plug drive bays
  - Slimline media bay supporting DVD -ROM/DVD-RW (available only on 4 HDD models)
  - Optional DVD-on 4SFF HDD models only
- Network Controller:
  - One HP NC382i Dual Port Multifunction Gigabit Server Adapter (two ports total) with TCP/IP Offload Engine, including support for Accelerated iSCSI
- Expansion Slots:
  - Two PCI-Express Gen 2 expansion slots: (1) full-length, full-height slot; (1) low-profile slot
  - Optional PCI-X Riser expansion slot
- Ports:
  - USB 2.0 Support
  - 4 Total: (1) front, (1) internal and (2) rear accessible ports
  - 1 internal Secure Digital (SD) slot
- Integrated Hypervisors (Optional):
  - VMware virtualization technology
  - Citrix XenServer virtualization technology
- Redundancy:
  - Multiple layers of fault tolerance through critical component redundancy (power supply and fan redundancy), mirrored memory, embedded RAID capability, and full-featured remote Lights-Out management
- Power Sources:
  - Dual Common Slot Bays for High Efficiency, Right Sized, Hot plug and Redundant Power options
    - HP 1200W CS HE Silver Power Supply (optional)
    - HP 750W CS HE Gold Power Supply (optional)
    - HP 460W CS HE Gold Power Supply (ships standard)
- Infrastructure Management:
  - Convenient slide-out Systems Insight Display for quick and easy front view server diagnostics, along with status LEDs, Automatic Server Recovery (ASR), ROM Based Setup Utility (RBSU)
    o HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) for simplified server setup, health monitoring and recovery, power and thermal control, and lights-out remote administration.
  - HP Insight Control a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, control and optimize your IT infrastructure through a single, simple management console. Insight Control supports both Windows and Linux-based central management servers.
  - HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. This ultimately enables them to dynamically keep pace with the organization's changing business requirements.
- Form Factor:
  -

Overview

- 1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

- Operating Systems and Virtualization Software Support for ProLiant Servers:
  - Supports Windows, RHEL, SLES, OEL, Solaris, NetWare, VMware, and Citrix XenServer
- Deployment/Serviceability:
  - Sliding rails for in rack servicing ship standard; optional 1U Cable Management Arm
  - Customer Self Repair (CSR): HP products are designed with many CSR parts to minimize repair time and allow for greater flexibility in performing defective parts replacement
- Warranty:
  - This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.
    NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:
    http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

Standard Features

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

Processor One of the following depending on Model	Quad-Core Processors Intel® Xeon® Processor X5570 (2.93 GHz,8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor L5530 (2.40 GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60 Watts, DDR3-800) Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80 Watts, DDR3-800) Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80 Watts, DDR3-800) Dual-Core Processors Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80 Watts, DDR3-800) NOTE: Up to 2 processors supported. Performance Model configurations include two processors. NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4,3,2 and 1 cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. NOTE: For the Intel 5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.
Cache Memory One of the following depending on Model	8MB (1 x 8MB) Level 3 cache NOTE: All processor models except for those identified below. 4MB (1 x 4MB) Level 3 cache NOTE: For processors E5506/L5506/E5504/E5502.
Chipset	Intel® 5520 Chipset NOTE: For more information regarding Intel® chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/.

Standard Features

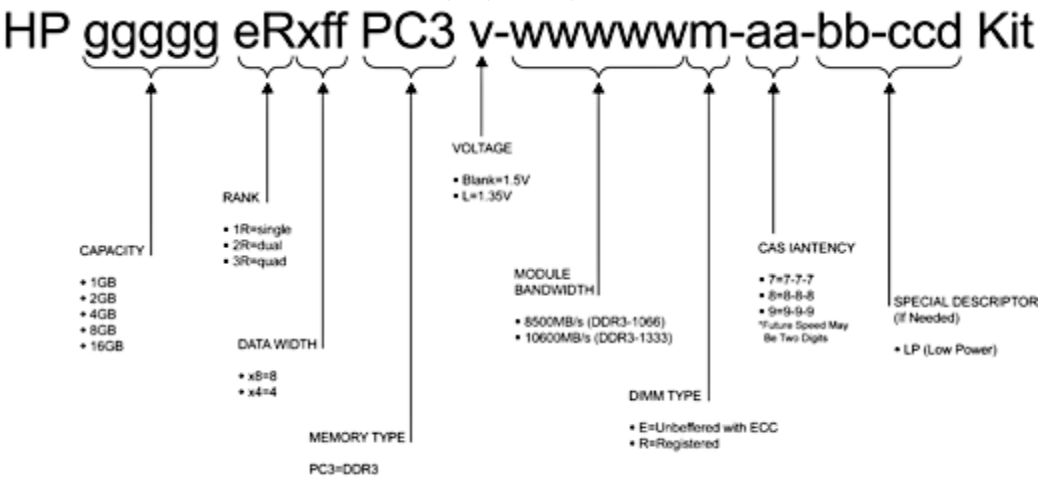
Memory Protection	Advanced ECC (multi-bit error protection) Mirroring mode Lock-step mode

Memory	Type	DDR3 Registered (RDIMM) or Unbuffered (UDIMM)
	Standard (Performance Models)	12 GB (6 x 2 GB) RDIMM
	Standard (Base Models)	6 GB (3 x 2 GB) RDIMM
	Standard (Entry Model)	4 GB (2 x 2 GB) RDIMM
	Standard (High Efficiency Model)	4 GB (2 x 2GB) UDIMM
	Maximum (RDIMM)	192 GB (12 x 16 GB) for Registered Memory configurations
	Maximum (UDIMM)	24 GB (12 x 2 GB) for Unbuffered Memory configurations

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.

NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

DDR3 memory options part number decoder



Network Controller	One HP NC382i Dual Port Multifunction Gigabit Server Adapter (two ports total) with TCP/IP Offload Engine, including support for Accelerated iSCSI

Standard Features

Expansion Slots

Expansion Slots #	Technology	Bus Width**	Connector Width	Bus Number*	Form Factor	Notes
1	PCI-e	x8	x8	4	Low profile slot	
2	PCI-e	x16	x16	7	Full length, full height slot	
2	PCI-X (133 MHz, 3.3 Voltage)	64-bit	x8	7		

* Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number

** Indicates the number of physical electrical lanes running to the connector.

NOTE: For external power requirements for PCI options a PCI Thermal-Power Kit (cable) is offered optionally for higher power requirements.

Storage Controller
One of the following depending on Model

Entry Models	HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)
Base Models	HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
Performance Models	HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0)
High Efficiency Models	HP Smart Array P410i/Zero Memory Controller (RAID 0/1/1+0)

Available upgrades: 256MB, 512MB with BBWC, 512MB with FBWC, 1G with FBWC, Battery kit upgrade (for 256MB BBWC), and Smart Array Advanced Pack (SAAP-RAID 6 and 6+0).

Storage

Diskette Drive	None Standard
Optical Drive One of the following depending on Model	None Standard NOTE: This option supported on 4 drive models only. Optional DVD-ROM, DVD-RW or Slimline floppy drive Optional HP External USB CD/DVD R/RW for 8 drive models
Hard Drives	None Standard
Drive Bays	Up to 8 Small Form Factor drive bays total NOTE: 4 bays standard in Entry / Base & High Efficiency models, with optional upgrade of 4 additional bays with the SFF HD Backplane Kit (516966-B21). NOTE: This option available for 8 drive models. HP External USB CD/DVD R/RW Drive available for 8 drive systems.

Maximum Internal Storage

Type		
Hot Plug SAS	4.0TB	8 x 500GB SAS
Hot Plug SATA	4.0TB	8 x 500GB SATA

Standard Features

Interfaces	Keyboard	1
	Mouse	1
	Serial	1
	Video	1
	Network RJ-45	2
	iLO 2 remote management port	1
	SD slot	1
	USB 2.0 Ports	4 total: 2 rear, 1 front, 1 internal NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html.

Graphics

Integrated ATI ES1000, 32MB video standard

- 16 bit color: maximum resolution of 1600 x 1200
- 32 bit color: maximum resolution of 1280 x 1024

NOTE: Maximum resolution available via iLO 2 remote console is 1280 x 1024.

Form Factor

1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

HP Insight management software	HP Insight Foundation	Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters. HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems: www.hp.com/go/foundation. The foundation pack includes: • HP SmartStart • HP Management • HP ProLiant Firmware Maintenance SmartStart version supported (minimum): SmartStart 8.20. http://www.hp.com/servers/smartstart NOTE: In an effort to support reducing our environmental impact, the HP ProLiant Essentials Foundation Pack media will be available as a selectable option for this server at time of order of a CTO SKU. This will allow customers to order the number of media kits that best meet their needs and eliminate receiving unnecessary duplicate media.
	ProLiant Onboard Administrator	HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP ProLiant Onboard Administrator functions without

	additional software, and can be accessed from any location via a web browser. It works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and the Insight Dynamics for ProLiant helping customers unlock the value of the ProLiant platform and deliver the highest possible quality of IT service to the business. See www.hp.com/go/ProLiantOA
HP Insight Control	HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP Insight Control for Linux, and HP Insight Control. See www.hp.com/go/insightcontrol HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight.
HP Insight Dynamics for ProLiant	HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. As a powerfully integrated by design toolkit to accelerate complex technology projects and simplify daily operations that ultimately enable IT Staff personnel to dynamically keep pace with the organizations changing business requirements. It enables them to plan capacity and power continuously, balance across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location. NOTE: For more information, visit: http://www.hp.com/go/insightdynamics

Industry Standard Compliance	ACPI 2.0b Compliant PCI 2.2 Compliant WOL Support Microsoft® Logo certifications PXE Support USB 1.1 and 2.0 Compliant SMBIOS 2.6.1

Standard Features

Security	Power-on password Keyboard password Diskette drive control Diskette boot control QuickLock, Network Server Mode Removable CD and Diskette Drive Assembly Serial interface control Administrator's password Integrated Lights-Out has 12 customizable user accounts and SSL encryption Integrated Lights-Out can be disabled via a Global Setting iLO Advance Pack supports directory services integration and two-factor authentication
Security Trusted Platform Module	The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to www.hp.com/go/TPM NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment. NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.
Server Power Cords	All Standard Model (BTO) servers ship with a high voltage server to PDU power cord. Localized cables may be included with geographic specific models in other world regions. NOTE: ProLiant DL servers do not ship standard with NEMA power cords that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a standard wall receptacle (NEMA-15), the NEMA power cord must be ordered separately and the server will be shipped with both cords. If the order is a Factory-Integration or CTO order only the NEMA-15 power will be shipped. See Power Cords in the Additional Options section below for selection for your region.
UPS Power Cord Matrix	Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units: http://h18004.www1.hp.com/products/servers/proliantstorage/power-protection/index.html

Standard Features

Power Supply	HP has a new design for ProLiant power. The new Common Slot Power Supply bay. This design provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with Common Slot, High Efficiency and Right-Size Power Supplies. Common Slot (CS) designates commonality of the power supply across multiple ProLiant servers. HP's new Common Slot power supplies are designed for highest efficiency to provide power efficiency without degrading performance of the ProLiant. Power Supplies will have efficiency ratings up to 92%. There are three Right Size power options available, depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP Power Advisor to decide the "Right-Size" for your configuration. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant. The HP Power Advisor is located at: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor
Common Slot ProLiant	It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP offers multiple Power Supply Options: • HP 460Watts, Common Slot, 92% Efficiency 80PLUS GOLD • HP 750Watts, Common Slot, 92% Efficiency 80PLUS GOLD • HP 1200Watts, Common Slot, 90% Efficiency 80PLUS SILVER HP's ProLiant Common Slot Power supplies (460W & 750W) meet multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative GOLD, 80PLUS GOLD and plans on offering models that meet the Energy Star for Server requirements when they are published. HP's ProLiant Common Slot Power supplies (1200W) meet multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative Bronze, 80PLUS SILVER Power Supply requirements. Redundant Power: Optional (1+ 1 or n+n redundant) power supplies can be purchased through power supply option kits (see Redundant Options for part numbers).
System Fans	3 fan modules ship standard in 1 processor models 4 fan modules ship standard in 2 processor models Fan redundancy standard with all modules NOTE: The processor option kit contains 1 additional fan module, when upgrading from a 1 processor to two processor models. A Fan Module Option kit can also be purchased separately for use with PCI Graphics card upgrades. See HP PCI Thermal Power Kit (519254-B21) in the Core Options section.
Required Cabling	For required cabling information, refer to the Web site at: http://h18000.www1.hp.com/products/servers/proliantdl360/.

Standard Features

Operating Systems and Virtualization Software Support for ProLiant Servers	Microsoft Windows Server Microsoft Windows Server Hyper-V Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Enterprise Linux (OEL) Solaris NetWare VMware Citrix XenServer NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: http://www.hp.com/go/ossupport and our driver download page www.hp.com/support/DL360G6.
Rack Airflow Requirements	Rack 10000 G2 series Cabinets The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 G2 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors. CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment: • Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation). • Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm). CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage. NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: www.hp.com/servers/dl360.
Rack Kit	Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management.
Telco Rack Support	Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions at: www.hp.com/go/rackandpower

Standard Features

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: http://www.hp.com/go/factory-express.

HP Enterprise Configurator

The HP eConfigure-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator

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Service and Support

HP Care Pack services provide total care and support expertise with committed response designed to meet your IT and business needs.

HP Care Pack services include coverage for the HP branded hardware options qualified for the server and purchased at the same time or afterward that are internal to the enclosure. This also includes the 22" and smaller external monitors and tower UPS options up to 3kVA. These items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, and standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

To fully capitalize on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions, provides a range of support services designed to meet the varying needs of your business. Whether an SMB, or large global corporation, HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

Recommended Service - simplify ProLiant solution implementation, maintenance, and management.

- Support - 3-Year 4-Hour response 24x7 Same Business Day Coverage only
- Deployment Service - Installation and Start up only

Enhanced Service - optimize service level to increase IT performance and availability.

- Support - 3-Year Support Plus 24 only

Refer to the information on "Installation & Start-Up" for service on ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet; to be delivered on a scheduled basis 8am-5pm, M-F, excluding HP holidays.

NOTE: For a complete listing of service offerings and information visit:
http://www.hp.com/services/proliantservices
http://www.hp.com/go/proliant/carepack

Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

HP DL360 G6 Performance Models Quad-Core Models DL360R06 X5550 12GB 504633-xx1	Processor(s)	(2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3)
	Cache Memory	8MB (1 x 8MB) Level 3 cache
	Memory	12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/512MB with BBWC
	Hard Drive	None ship standard
	Internal Storage	8 SFF SAS/SATA HDD Bays
	Optical Drive	None ship standard
	PCI-Express Slots	PCI-e Gen2 (1 FH/FL, 1 HH/HL) PCI-X support optional in the FH/FL slot
	Power Supply	Two 460W Hot Plug Power Supplies, redundant
	Fans	4 total (3 fan modules in 1 Processor Models, 1 additional fan module with second processor), fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

HP DL360 G6 Performance Models with Insight Control standard Quad-Core Models HP DL360G6 X5550 470065-074 US 470065-075 APJ 470065-073 EURO	Processor(s)	(2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)
	Cache Memory	8MB (1 x 8MB) Level 3 cache
	Memory	12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/512MB with BBWC
	Hard Drive	None ship standard
	Internal Storage	8 SFF SAS/SATA HDD Bays
	Optical Drive	None ship standard
	Power Supply	Two 460W Hot Plug Power Supplies, redundant
	Fans	4 total (3 fan modules in 1 Processor Models, 1 additional fan module with second processor), fan redundancy standard
	Insight Control Environment (ICE)	IC 24x7 support
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

Models

HP DL360 G6 Base Models Quad-Core Models DL360R06 E5540 6GB 504634-xx1 DL360R06 E5530 6GB 504635-xx1	Processor(s) One of the following depending on Model	(1) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) (1) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)
	Cache Memory	8MB (1 x 8MB) Level 3 cache
	Memory	6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/256MB Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)
	Optical Drive	One Multi-Media bay standard (not available with 4SFF HDD upgrade)
	PCI-Express Slots	PCI-e Gen2 (1 FH/FL, 1 HH/HL) PCI-X support optional in the FH/FL slot
	Power Supply	One 460W Hot Plug Power Supply
	Fans	3 total (3 fan modules in 1 Processor Models, 1 additional fan module with 2 Processor Model), fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

HP DL360 G6 Efficiency Models Quad-Core Models DL360R06 L5520 4GB 504636-xx1	Processor(s)	(1) Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2)
	Cache Memory	8MB (1 x 8MB) Level 3 cache
	Memory	4 GB (2 x 2 GB) PC3-10600E (DDR3-1333) Unbuffered DIMMs
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/Zero Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)
	Optical Drive	One Multi-Media bay standard (not available with 4SFF HDD upgrade)
	PCI-Express Slots	PCI-e Gen2 (1 FH/FL, 1 HH/HL) PCI-X support optional in the FH/FL slot
	Power Supply	One 460W Hot Plug Power Supply
	Fans	3 total (3 fan modules in 1 Processor Models, 1 additional fan module with 2 Processor Model), fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

Models

HP DL360 G6 Entry Model Quad-Core Models DL360R06 E5504 4GB 504637-xx1	Processor(s)	(1) Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)
	Cache Memory	4MB (1 x 4MB) Level 3 cache
	Memory	4 GB (2 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs
	Network Controller	HP NC382i Dual Port Multifunction Gigabit Server Adapter
	Storage Controller	HP Smart Array P410i/Zero Memory Controller
	Hard Drive	None ship standard
	Internal Storage	4 SFF SAS/SATA HDD Bays (with optional 4SFF HDD upgrade)
	Optical Drive	One Multi-Media bay standard (not available with 4SFF HDD upgrade)
	PCI-Express Slots	PCI-e Gen2 (1 FH/FL, 1 HH/HL) PCI-X support optional in the FH/FL slot
	Power Supply	One 460W Hot Plug Power Supply
	Fans	3 total (3 fan modules in 1 Processor Models, 1 additional fan module with 2 Processor Model), fan redundancy standard
	Form Factor	1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep

Country Code Key	XX=00	US
	XX=20	Brazil
	XX=29	Japan
	XX=37	APD
	XX=42	EURO
	XX=AA	PRC

Configuration Information - Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.
NOTE: HP does not allow factory integration of options into standard models listed above.
Configure-to-order servers must start with a CTO Chassis.
NOTE: FIO indicates that this option is only available as a Factory Installable Option.

Step 1: Base Configuration (choose one of the following configurable models)

Models	HP ProLiant DL360 G6 Rack CTO Chassis	484184-B21
	Factory Integrated Model ships with:	
	HP NC382i Dual Port Multifunction Gigabit Server Adapter HP Smart Array P410i/Zero Memory Controller Integrated Lights-Out 2 (iLO 2) embedded 2 PCIe G2 Slots - 1 full-length x16 and 1 low-profile x8 PCI-Express 4 bay Hot-Plug SAS/SATA Drives(Factory Options for up to 8) 4 USB ports(1-front,1-internal, 2-rear) 1 Internal Secure Digital(SD) slot 3 fan modules; fan redundancy standard 1U Rack form factor (1.75"), less than 28 inches (70.5 cm) deep	

Step 2: Choose Required Options (only one of the following from each list unless othe noted)

Processors	Quad-Core Processors	
	Intel® Xeon® Processor X5570 (2.93 GHz,8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3)	507674-L21
	Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3)	507676-L21
	Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3)	505878-L21
	Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)	505880-L21
	Intel® Xeon® Processor L5530 (2.40GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2)	583379-L21
	Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)	505882-L21
	Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)	507680-L21
	Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2)	505884-L21
	Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60 Watts, DDR3-800)	507678-L21
	Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)	505886-L21
	Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)	507682-L21
	Dual-Core Processors	
	Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)	507663-L21
	NOTE: Up to 2 processors supported. Performance Model configurations include two processors.	

Configuration Information - Factory Integrated Models

NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology
NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4,3,2 and 1 cores active.
NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.
NOTE: For the Intel 5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

Base Memory	Registered DIMMs (RDIMMs)	
	HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21
	HP 4GB 2Rx4 PC3-10600R-9 Kit	500658-B21
	HP 4GB 4Rx8 PC3-8500R-7 LP Kit	500660-B21
	HP 8GB 2Rx4 PC3-10600R-9 Kit	500662-B21
	HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21
	HP 16GB 4Rx4 PC3-8500R-7 Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB 1Rx8 PC3-10600E-9 Kit	500668-B21
	HP 2GB 2Rx8 PC3-10600E-9 Kit	500670-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator. NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient	
Power Supplies	NOTE: Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at "www.hp.com/go/proliant-energy-efficient" or www.hp.com/go/hppoweradvisor	
	HP 460W CS HE Power Supply Kit	503296-B21
	HP 750W CS HE Power Supply Kit	512327-B21
	HP 1200W CS HE Power Supply Kit	500172-B21
	NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	

Configuration Information - Factory Integrated Models

Step 3: Choose Additional Factory Integratable Options

Storage Controller(s)	NOTE: For additional Memory Cache Modules or Controllers select from the following:	
	256 MB Cache Module NOTE: Additional memory for the P410i ZM-Zero Memory models.	462968-B21
	Battery Kit upgrade (for BBWC) NOTE: To enable BBWC on the 256MB cache.	462969-B21
	512MB BBWC NOTE: Includes BBWC.	462967-B21
	512MB Flash Backed Write Cache NOTE: Supported on the Smart Array P410i Controller only.	534916-B21
	1G Flash Backed Write Cache NOTE: Supported on the Smart Array P410i Controller only.	534562-B21
	NOTE: For additional Storage Controller Options select from these options. See Additional Options section below for more details.	
	HP Smart Array P212/Zero Memory Controller	462828-B21
	HP Smart Array P212/256MB Controller	462834-B21
	HP Smart Array P411/256MB Controller	462830-B21
	HP Smart Array P411/512MB BBWC	462832-B21
Integrated hypervisor (iHV)	NOTE: HP VMware ESXi free download from www.software.hp.com - select Virtualization	
	HP Essentials -XenServer Platinum Nm Lic	530753-B21
	HP ProLiant Virtual Console Full License	508293-B21
	XenServer HP Ent Upg iSW Lic	464676-B21
	HP Citrix Essentials for XenServer Enterprise Edition NOTE: For additional information and options kits, please see the HP Citrix Essentials for XenServer QuickSpecs at www.hp.com/go/citrix	508294-B21
Performance Packs	The HP ProLiant DL360 G6 performance packs are necessary to configure a HP ProLiant DL360 G6 Performance Model. HP ProLiant DL360 G6 Performance model includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The performance pack includes a 2nd processor, redundant 460w power supplies, Smart Array P410i Controller with 512MB of BBWC:	
	HP DL360G6 X5550 HPM FIO Perf Pack	507937-B21

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Core Options" and "Additional Options" sections below.

Core Options

NOTE: Some options may not be factory integratable. Contact your local sales representative for additional information.

HP ProLiant DL360 G6 Unique Options	Intel® Xeon® Processor X5570 (2.93 GHz,8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3)	507674-B21
	Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3)	507676-B21
	Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3)	505878-B21
	Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)	505880-B21
	Intel® Xeon® Processor L5530 (2.40GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2)	583379-B21
	Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)	505882-B21
	Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)	507680-B21
	Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2)	505884-B21
	Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60 Watts, DDR3-800)	507678-B21
	Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)	505886-B21
	Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)	507682-B21
	Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80 Watts, DDR3-800)	507663-B21
	HP DL360G6 SFF HD Backplane Kit NOTE: Integrated Optical/DVD cannot be used with this option. Optional External USB CD/DVD Drive available.	516966-B21
	HP DL360 SL 12.7mm SATA DVD	532066-B21
	HP DL360 SL 12.7mm SATA DVD-RW Optical kit NOTE: Integrated DVD/Optical drive option is supported on 4 Hard drive models only.	532068-B21
	PCI-X Riser option NOTE: To convert full-length PCI-Express slot to PCI-X slot.	518824-B21

Core Options

Processor	Quad-Core Processors	
	Intel® Xeon® Processor X5570 (2.93 GHz,8MB L3 Cache, 95 Watts,DDR3-1333,HT Turbo 2/2/3/3)	507674-B21
	Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95 Watts,DDR3-1333,HT Turbo 2/2/3/3)	507676-B21
	Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95 Watts,DDR3-1333,HT Turbo 2/2/3/3)	505878-B21
	Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80 Watts,DDR3-1066,HT Turbo 1/1/2/2)	505880-B21
	Intel® Xeon® Processor L5530 (2.40GHz, 8MB L3 Cache, 60 Watts, DDR3-1066, HT Turbo 1/1/2/2)	583379-B21
	Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80 Watts,DDR3-1066,HT Turbo 1/1/2/2)	505882-B21
	Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80 Watts,DDR3-1066,HT Turbo 1/1/2/2)	507680-B21
	Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60 Watts,DDR3-1066,HT Turbo 1/1/2/2)	505884-B21
	Intel® Xeon® Processor L5506 (2.13 GHz, 4MB L3 Cache, 60 Watts,DDR3-800)	507678-B21
	Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80 Watts,DDR3-800)	505886-B21
	Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80 Watts,DDR3-800)	507682-B21
	Dual-Core Processors	
	Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80 Watts,DDR3-800)	507663-B21
	NOTE: Up to 2 processors supported. Performance Model configurations include two processors. NOTE: HT indicates that the processor model supports Intel® /Hyper-Threading Technology NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4,3,2 and 1 cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. NOTE: For the Intel 5500 Series, the letter preceding the model number indicated the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.	

Core Options

Memory	Registered DIMMs (RDIMMs)	
	HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21
	HP 4GB 2Rx4 PC3-10600R-9 Kit	500658-B21
	HP 4GB 4Rx8 PC3-8500R-7 LP Kit	500660-B21
	HP 8GB 2Rx4 PC3-10600R-9 Kit	500662-B21
	HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21
	HP 16GB 4Rx4 PC3-8500R-7 Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB 1Rx8 PC3-10600E-9 Kit	500668-B21
	HP 2GB 2Rx8 PC3-10600E-9 Kit	500670-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator. NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.	
Hot Plug HDD Backplane Option	HP DL360G6 SFF HD Backplane Kit	516966-B21
	NOTE: For 4 addition HDs in 5-8 slots. NOTE: Optical/DVD cannot be used with this option.	
Optical Drives	HP DL360 SL 12.7mm SATA DVD	532066-B21
	HP DL360 SL 12.7mm SATA DVD-RW Optical kit	532068-B21
	NOTE: Integrated DVD/Optical drive option is supported on 4 Hard drive models only.	
	HP External USB CD/DVD R/RW Option Drive	FS943AA
Hard Drives	NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components. NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.	
	SAS Hot Plug SFF Enterprise (ENT) Drives	
	HP 300GB 6G SAS 10K SFF DP ENT HDD	507127-B21
	HP 300GB 3G SAS 10K SFF DP ENT HDD	492620-B21
	HP 146GB 6G SAS 15K SFF DP ENT HDD	512547-B21
	HP 146GB 6G SAS 10K SFF DP ENT HDD	507125-B21
	HP 146GB 3G SAS 10K SFF DP ENT HDD	418367-B21
	HP 146GB 3G SAS 15K SFF DP ENT HDD	504062-B21
	HP 72GB 6G SAS 15K SFF DP ENT HDD	512545-B21
	HP 72GB 3G SAS 15K SFF DP ENT HDD	418371-B21
	HP 72GB 3G SAS 10K SFF DP ENT HDD	384842-B21
	SAS Hot Plug SFF Midline (MDL) Drives	
	HP 500GB 3G SAS 7.2K SFF DP MDL HDD	507610-B21

Core Options

	NOTE: SAS Enterprise drives have a 3 year warranty. Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide)	
	SATA Hot Plug SFF Midline (MDL) Drives	
	HP 500GB 3G SATA 7.2K 2.5in MDL HDD	507750-B21
	HP 160GB 3G SATA 7.2K 2.5in MDL HDD	530888-B21
	SATA Hot Plug SFF Entry (ETY) Drives	
	HP 250GB 3G SATA 5.4K SFF ETY HDD	460355-B21
	HP 120GB 1.5G SATA 5.4K SFF ETY HDD	458924-B21
	NOTE: SATA drives have a 1 year warranty. Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html (Worldwide)	
	SATA Hot Plug Midline (MDL) Solid State Drives	
	HP 60GB 3G SATA 2.5in MDL 1y Wty SSD	572071-B21
	HP 120GB 3G SATA 2.5in MDL 1y Wty SSD	572073-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_div.html (Worldwide)	
Communications	Gigabit Ethernet Adapters	
	HP NC112T PCIe Gigabit Server Adapter	503746-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	10 Gigabit Ethernet Adapters	
	HP NC522SFP Dual Port 10GbE Server Adapter	468332-B21
	NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each NC522SFP adapter.	
	NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.	
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs	

Core Options

Power Supplies

CAUTION: Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at "www.hp.com/go/proliant-energy-efficient" In ProLiant Servers that have more than one power slot (bay), only same size power supplies are recommended. If non-matched power supplies are inserted you will get errors and operation will fail.

HP 460W CS HE Power Supply Kit	503296-B21
HP 750W CS HE Power Supply Kit	512327-B21
HP 1200W CS HE Power Supply Kit	500172-B21

NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.

NOTE: For regional specific power cables please refer to Power Cable section below.

Power Options

HP PCI Thermal Power Kit	519254-B21

NOTE: Supports 3rd Party PCI Video Graphics cards.

Additional Options

HP Insight Software	HP Insight Control server deployment	
	HP Insight Control server deployment, Electronic License including 1 year of 24x7 Technical Support and Updates	T9082AAE
	NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key. NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent. NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service. NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates. NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html	
	HP Insight Control for Linux	
	HP Insight Control for Linux, 1-server license, including one year of 24x7 Technical Support and Updates, Electronic	T9084BAE
	HP Insight Control for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates	464423-B22
	HP Insight Control for Linux, Media pack (DVD) - No licenses included	464422-B22
	NOTE: Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately. NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates. NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent. NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys. NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html	
	HP Integrated Lights-Out Advanced	
	HP Integrated Lights-Out Advanced, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates	512485-B21
	NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html	
	HP Insight Rapid Deployment software	
	HP Insight Rapid Deployment software No Media 1-Server License, including 1 year of 24x7 Technical Support and Updates	452151-B21
	NOTE: This license allows 1 server to be deployed and managed via RDP. Customer	

Additional Options

	will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.html	
Security	HP Trusted Platform Module Option Kit	488069-B21
Storage Controllers	NOTE: The DL360 G6 Server comes standard with an integrated P410i Smart Array Controller designed to mange up to 8 SFF hard drives from HP. For additional capabilities and capacities HP offers additional Smart Arrays.	
	SAS Controllers	
	Smart Array P800 Controller	
	HP Smart Array P800/512 BBWC Controller	381513-B21
	Smart Array P212 Controller	
	HP Smart Array P212/Zero Memory Controller	462828-B21
	HP Smart Array P212/256 MB Controller	462834-B21
	Smart Array P411 Controller	
	HP Smart Array P411/256 MB Controller	462830-B21
	HP Smart Array P411/512 MB with BBWC Controller	462832-B21
	Optional Upgrades	
	256 MB Cache Module NOTE: Supported on HP Smart Array P212 Controller and HP Smart Array P410i Controller.	462968-B21
	512MB BBWC	462967-B21
	1G Flash Backed Write Cache NOTE: Supported on the Smart Array P410i Controller only.	534562-B21
	512MB Flash Backed Write Cache NOTE: Supported on the Smart Array P410i Controller only.	534916-B21
	Battery Kit upgrade NOTE: To enable BBWC on the 256MB cache.	462969-B21
	HP 8484 to Mini SAS 33in Cable Assy NOTE: To support internal drives on the HP ProLiant DL360 G6 with a Smart Array P800 Controller.	591734-B21
	HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services. NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html (Smart Array P800 Controller)	516471-B21

Additional Options

	http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html (Smart Array P212 Controller) http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html (Smart Array P410 Controller) http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html (Smart Array P411 Controller) http://h18000.www1.hp.com/products/quickspecs/13200_div/13200_div.html (Smart Array Advanced Pack)	
	SAS HBA	
	HP SC08Ge Host Bus Adapter	488765-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/13082_div/13082_div.html (SC08Ge HBA)	
	SCSI HBA	
	HP SC11Xe Host Bus Adapter	412911-B21
	NOTE: Recommended HBA for SCSI tape drive connect.	
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html (SC11Xe HBA)	

Power Cords	NOTE: The HP ProLiant DL360 G6 ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). For specific regional power cords purchase from the following.	
	Nema 5-15P to IEC320-C13	AF556A
	Power Cord, Euro, 10A 250 V Straight (6 ft/1.83 m)	AF568A
	Power Cord, UK, 10A 250 V Straight (6 ft/1.83 m)	AF570A
	Power Cord, Danish, 10A 250 V Straight (6 ft/1.83 m)	AF566A
	Power Cord, Swiss, 10A 250 V Straight (6 ft/1.83 m)	AF565A
	Power Cord, Italian, 10A 250 V Straight (6 ft/1.83 m)	AF571A
	Power Cord, South Africa, 10A 250 V Straight (8.2 ft/2.5 m)	AF567A

HPC Specific Options	HP IB 4X DDR PCI-e Dual Port HCA	409376-B21
	HP IB 4X QDR PCI-e G2 Dual Port HCA	517721-B21
	HP 4X QDR PCI-e G2 QLogic InfiniBand Dual Port HCA	583211-B21
	HP IB 4X DDR Conn-X PCI-e G2 Dual Port HCA	483514-B21
	HP IB 4X QDR CX-2 PCI-e G2 Dual Port HCA	592520-B21
	HP IB 4X DDR CX-2 PCI-e G2 Dual Port HCA	592521-B21
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13078_div/13078_div.html.	

Additional Options

Tape Storage

NOTE: For the complete listing of Tape Drive offerings, please see: http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html

For recommended tape drive offerings for this ProLiant server see the following:

Tape Drives

USB Rack-Mount Tape Solutions

HP StorageWorks 1U USB Rack-Mount Kit with one DAT 160 USB Tape Drive NOTE: Pre-configured with one DAT 160 USB tape drive.	AG703A
DAT 320 USB External Tape Drive	AJ823A

SAS Rack-Mount Tape Solutions

NOTE: HP recommends purchasing the HP Smart Array P212 Controller (462828-B21) for a dedicated SAS HBA for tape.

DAT 320 WW SAS External Tape Drive	AJ828A
HP StorageWorks 1U SAS Rack-Mount Kit with one LTO-4 Ultrium 1760 NOTE: Pre-configured with one LTO-4 Ultrium 1760 SAS tape drive.	EH946A
HP StorageWorks 1U SAS Rack-Mount Kit NOTE: Supports up to (2) half-height SAS tape drives.	AE459A
HP StorageWorks LTO-2 Ultrium 448 SAS Internal Tape Drive NOTE: Mounts inside the 1U SAS Rack-Mount Kit (AE459A).	DW085A
HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive NOTE: Mounts inside the 1U SAS Rack-Mount Kit (AE459A).	EH847A

NOTE: For an up-to-date listing of the latest O/S and software support details for HP tape drives, please visit: http://www.hp.com/go/connect.

HP StorageWorks 1/8 G2 Tape Autoloader

HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader	AK377A
HP StorageWorks 1/8 G2 LTO-3 Ultrium 920 SAS Autoloader	AH558A
HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit NOTE: Required to install the 1/8 G2 Autoloaders in a standard 19-inch rack; includes rails and rackmount instructions.	AH166A

NOTE: Please reference the Tape Autoloader QuickSpecs at: http://www.hp.com/go/automation for additional information needed to create a complete solution.

HP StorageWorks MSL2024 Tape Library

HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Drive Library	AK378A
HP StorageWorks MSL2024 1 LTO-3 Ultrium 920 SAS Drive Library	AH559A

HP StorageWorks MSL4048 Tape Library

HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Drive Library	AK380A
HP StorageWorks MSL4048 1 LTO-3 Ultrium 920 SAS Drive Library	AH560A

NOTE: Please reference the MSL Tape Library QuickSpecs at: http://www.hp.com/go/automation for additional information needed to create a complete solution; reference current compatibility information at: http://www.hp.com/go/ebs.

Additional Options

Disk-Based Backup	RDX Removable Disk Backup	
	HP StorageWorks RDX500 External Removable Disk Backup System NOTE: 500GB of Disk Storage NOTE: Please see the HP RDX Removable Disk Backup System QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13036_div/13036_div.html	AJ935A
	D2D Backup	
	HP StorageWorks D2D2502i Backup System NOTE: 2 TB raw capacity/1.5 TB useable capacity.	EJ001A
	HP StorageWorks D2D2504i Backup System NOTE: 4 TB raw capacity/3 TB useable capacity. NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information: http://www.hp.com/go/d2d	EJ002A
StorageWorks Options	StorageWorks Fibre Channel HBA	
	NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	Brocade Fibre Channel HBAs	
	HP StorageWorks 81B PCI-e FC HBA Single Port	AP769A
	HP StorageWorks 82B PCI-e FC HBA Dual Port	AP770A
	HP StorageWorks 41B 4Gb PCI-e FC HBA	AP767A
	HP StorageWorks 42B 4Gb Dual-Port PCI-e FC HBA	AP768A
	Emulex Fibre Channel HBAs	
	HP StorageWorks 81E PCI-e FC HBA Single Port	AJ762A
	HP StorageWorks 82E PCI-e FC HBA Dual Port	AJ763A
	HP StorageWorks FC2142 4Gb PCI-e HBA	A8002A
	HP StorageWorks FC2242 Dual Channel 4Gb PCI-e HBA	A8003A
	QLogic Fibre Channel HBAs	
	HP StorageWorks 81Q PCI-e FC HBA Single Port	AK344A
	HP StorageWorks 82Q PCI-e FC HBA Dual Port	AJ764A
	HP StorageWorks FC1142 4Gb PCI-e HBA	AE311A
	HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA	AE312A
	StorageWorks SCSI HBA	
	HP U320e SCSI Host Bus Adapter NOTE: Recommended HBA for MSL SCSI Tape Library connect.	AH627A

Additional Options

HP StorageWorks Modular Smart Array	MSA SAN Storage Arrays	
	HP StorageWorks 50 Modular Smart Array	364430-B21
	NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.html (Worldwide)	
	HP StorageWorks 60 Modular Smart Array	418408-B21
	NOTE: Please see the Modular Smart Array 60 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html (Worldwide)	
	HP StorageWorks 70 Modular Smart Array	418800-B21
	NOTE: Please see the Modular Smart Array 70 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html (Worldwide)	
	HP 2012sa Single Controller Modular Smart Array	AJ752A
	HP 2012sa Dual Controller Modular Smart Array	AJ753A
	NOTE: Please see the Modular Smart Array 2000sa QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/13045_div/13045_div.html (Worldwide)	
Uninterruptible Power Systems	HP Rack-mountable UPS	
	HP R1500 G2 UPS	
	HP, R1.5kVA UPS, 1U, NA	AF419A
	HP, R1.5kVA UPS, 1U, INTL	AF418A
	HP, R1.5kVA UPS, 1U, JPN/TW	AF421A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html	
	HP R3000 UPS	
	HP R3000 VA UPS, 2U, DTC, INTL	AF414A
	HP R3000 VA UPS, 2U, Low voltage L5-30, NA	AF422A
	HP R3000 VA UPS, 2U, High voltage L6-20, NA	AF423A
	HP R3000 VA UPS, 2U, High voltage L6-20, JPN	AF424A
	HP R3000 VA UPS, 2U, Low voltage L5-30, JPN	AF425A
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/10671_div/10671_div.html	
	HP R3000v Uninterruptible Power System	
	HP R3000v UPS	AF444A
	NOTE: The R3000v is available in China and India only.	
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13129_div/13129_div.html	
	HP Rack-Mountable R5500 UPS	
	HP R5500 VA UPS, INTL	AF416A

Additional Options

HP R5500 VA UPS, NA/JPN	AF426A

NOTE: Please see the QuickSpecs for additional information:
http://h18000.www1.hp.com/products/quickspecs/13129_div/13129_div.html

NOTE: For additional information on HP Uninterruptible Power Systems please go to: www.hp.com/servers/rackups.

Power Distribution UnitsMonitored PDUs

HP Monitored Power Distribution Unit: Full Rack Version

HP 17.3 kVA S2324 Monitored PDU- dual input, 3Ø, 24A (NA/JPN)	AF503A
HP 8.6 kVA S1324 Monitored PDU- single input, 3Ø, 24A (NA/JPN)	AF504A
HP 16.6 kVA S2140 Monitored PDU- dual input, 1Ø, 40A (NA/JPN)	AF505A
HP 8.3 S1140 Monitored PDU- single input, 1Ø, 40A (NA/JPN)	AF506A
HP 22.1 kVA S2316 Monitored PDU- dual input, 3Ø, 16A (INTL)	AF507A
HP 11 kVA S1316 Monitored PDU- single input, 3Ø, 16A (INTL)	AF508A
HP 14.7 kVA S2132 Monitored PDU- dual input, 1Ø, 32A (INTL)	AF509A
HP 7.3 kVA S1132 Monitored PDU- single input, 1Ø, 32A (INTL)	AF510A

HP Monitored Power Distribution Unit: Half Rack Version

HP 4.9 kVA S124 Monitored PDU- single input, 1Ø, 24A (NA/JPN)	AF914A
HP 7.3 kVA S132 Monitored PDU- single input, 1Ø, 32A (INTL)	AF915A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/12118_div/12118_div.html

Modular PDUs 1U/0U

NOTE: 1U/0U mounting brackets shipped with the unit (optimized for 10000 G2 and 9000 series racks).

Fixed Cord Extension Bars	351655-B21

NOTE: Two extension bar sticks; each with (7) C13 plugs.

3.6kVA Model - mPDU, 16A, High (WW)	252663-B24
2.8 kVA Model - mPDU, 24A, Low (NA/JPN)	252663-D71
4.9kVA Model - mPDU, 24A, High (NA/JPN)	252663-D72
7.3kVA Model - mPDU, 32A, High (INT'L)	252663-B31
8.3kVA Model - mPDU, 40A, High (WW)	252663-B21
8.3kVA Model - mPDU, 40A, High (power cord attached) (NA/JPN)	252663-D73
9.2kVA Model - mPDU, 40A, High (power cord attached) (INTL)	252663-B32
8.3kVA Model - mPDU 40A, High (core only) (NA/JPN)	252663-D75
9.2kVA Model - mPDU 40 A, High (core only) (Int'l)	252663-B34
8.3kVA Model - mPDU 32A, High (core only) (Int'l)	252663-B33
4.9kVA Model - mPDU 24A, High (core only) (NA/JPN)	252663-D74

NOTE: For additional information on HP Power Distribution Units including accessories please go to: www.hp.com/go/pdu.

Additional Options

HP Rack Series	HP Rack 5000 Series (Graphite Metallic)	
	HP 5642 Rack-Unassembled	358254-B21
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.html (Worldwide)	
	HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	
	S10614 (14U) Rack Cabinet - Shock Pallet	292302-B22
	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet - Crated	AF003A
	10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	AF004A
	10636 G2 (36U) Rack Cabinet - Pallet	AF011A
	10636 G2 (36U) Rack Cabinet - Shock Pallet	AF012A
	10636 G2 (36U) Rack Cabinet - Crated	AF013A
	10636 G2 (36U) Rack Cabinet, with Extension - Shock Pallet	AF014A
	10622 G2 (22U) Rack Cabinet - Pallet	AF021A
	10622 G2 (22U) Rack Cabinet - Shock Pallet	AF022A
	10642 G2 (42U) Rack Cabinet 1200mm Deep - Shock Pallet	AF034A
	10642 G2 (42U) Rack Cabinet 1200mm Deep - Pallet	AF038A
	10842 G2 (42U) 800mm Wide Rack Cabinet - Pallet	AF041A
	10842 G2 (42U) 800mm Wide Rack Cabinet - Shock Pallet	AF042A
	10647 G2 (47U) Rack Cabinet - Pallet	AF031A
	10647 G2 (47U) Rack Cabinet 1200mm Deep - Shock Pallet	AF044A
	NOTE: Due to handling and shipping requirements, AF044A is only orderable through HP Factory Express. It is not for direct sales. Customer site surveys are required before an order is approved. CTO orders may require additional lead time.	
	10647 G2 (47U) Rack Cabinet 1200mm Deep - Pallet	AF045A
	NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.	
	NOTE: xxxxxx-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels).	
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html (Worldwide)	
	NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.	

HP Rack Options	Keyboards and Monitors	
	TFT7600 Rackmount Keyboard Monitor US	AG052A
	TFT7600 Rackmount Keyboard Monitor UK	AG053A
	TFT7600 Rackmount Keyboard Monitor GR	AG054A
	TFT7600 Rackmount Keyboard Monitor FR	AG055A
	TFT7600 Rackmount Keyboard Monitor IT	AG056A
	TFT7600 Rackmount Keyboard Monitor SP	AG057A

Additional Options

TFT7600 Rackmount Keyboard Monitor DEN	AG058A
TFT7600 Rackmount Keyboard Monitor NOR	AG059A
TFT7600 Rackmount Keyboard Monitor SE/FI	AG060A
TFT7600 Rackmount Keyboard Monitor SWI	AG061A
TFT7600 Rackmount Keyboard Monitor PORT	AG062A
TFT7600 Rackmount Keyboard Monitor BEL	AG063A
TFT7600 Rackmount Keyboard Monitor JPN2	AG064A
TFT7600 Rackmount Keyboard Monitor RUS	AG065A
TFT7600 Rackmount Keyboard Monitor INTL	AG066A
HP TAA TFT7600 US Rkmntkybd 17in Monitor	AG067A
1U Rackmount Keyboard with USB, US	AG072A
1U Rackmount Keyboard with USB, UK	AG073A
1U Rackmount Keyboard with USB, GR	AG074A
1U Rackmount Keyboard with USB, FR	AG075A
1U Rackmount Keyboard with USB, ITL	AG076A
1U Rackmount Keyboard with USB, SP	AG077A
1U Rackmount Keyboard with USB, DEN	AG078A
1U Rackmount Keyboard with USB, NOR	AG079A
1U Rackmount Keyboard with USB, SE/FI	AG080A
1U Rackmount Keyboard with USB, SWI	AG081A
1U Rackmount Keyboard with USB, PORT	AG082A
1U Rackmount Keyboard with USB, BEL	AG083A
1U Rackmount Keyboard with USB, JPN2	AG084A
1U Rackmount Keyboard with USB, RUS	AG085A
1U Rackmount Keyboard with USB, INTL	AG086A

NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.

HP KVM Switch Options

2x1x16 IP Console Switch with Virtual Media	AF601A
4x1x16 IP Console Switch with Virtual Media	AF602A
2x16 Server Console Switch with Virtual Media	AF600A
0x2x16 KVM Server Console G2 Switch with Virtual Media and CAC	AF618A
0x2x32 KVM Server Console G2 Switch with Virtual Media and CAC	AF619A
PS/2 Virtual Media Interface Adapter, 1 pack	AF604A

NOTE: Requires PS/2 and one USB port on server.

Server console switch 0x2x8	AF616A
Server console switch 0x2x16	AF617A
1x1Ex8 KVM IP Console Switch G2 with Virtual Media and CAC	AF620A
2x1Ex16 KVM IP Console Switch G2 with Virtual Media and CAC	AF621A
4x1Ex32 KVM IP Console Switch G2 with Virtual Media and CAC	AF622A
PS/2 Interface Adapter, 1 pack	262588-B21
PS/2 Interface Adapter, 8 pack	262587-B21

Additional Options

	NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm.	
	HP 1x4 Console Switch (ALL)	AF611A
	PS2 Server Console Cable, 6 ft, 2 pack	AF612A
	USB Server Console Cable, 6 ft, 2 pack	AF613A
	NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.	
	HP Serial Console Server Options	
	HP 16 Port Serial Console Server (worldwide)	AF101A
	HP 48 Port Serial Console Server (worldwide)	AF102A
	Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
	Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A
	NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm.	
	NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.	
	Rack Kits	
	1U Cable Management Arm NOTE: Package contains two cable management arms.	365403-B21
USB and SD Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
	HP USB 04 Standard Keyboard	DT528A#ABA
Service and Support Offerings (HP Care Pack Services)	Hardware Services 4-Hour On-site Service	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4496E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4497E
	Hardware Services 6-Hour Call to Repair On-site Service	
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4498E
	Hardware Services Next Business Day On-Site Service	
	Hardware Installation, Electronic	U4506E
	Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic	U4507E
	Support Plus	
	Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic	U4508E
	Support Plus 24	

Additional Options

Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U4509E
Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U6310E
Onsite HW support 24x7, 4hr response and Red Hat ES Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U8332E

NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack.

Memory

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:
www.hp.com/go/ddr3memory-configurator

Some DIMM installation guidelines are summarized below:

- For servers with eighteen (18) memory slots:
  - There are three (3) channels per processor; six (6) channels per server
  - There are three (3) DIMM slots for each memory channel; eighteen (18) total slots
  - Memory channel 1 consists of the three (3) DIMMs that are closest to the processor
  - Memory channel 3 consists of the three (3) DIMMs that are furthest from the processor
- DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- You can only have up to eight (8) ranks installed per channel
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3;6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- No mixing DIMM voltage; all DIMMs must be the same voltage

DIMM Type ->	Registered Dimms (RDIMMs)						Unbuffered with ECC DIMMs (UDIMMs)	
DIMM Rank ->	Dual Rank (2R)				Quad Rank (4R)		Single Rank (1R)	Dual Rank (2R)
DIMM Capacity ->	2GB	4GB	8GB	8GB	4GB	16GB	1GB	2GB
DIMM Native Speed (MHz) ->	1333	1333	1333	1066	1066	1066	1333	1333
Part Number ->	500656-B21	500658-B21	500662-B21	516423-B21	500660-B21	500666-B21	500668-B21	500670-B21
SLOTS THAT CAN BE POPULATED								
9 slot servers	9	9	9	9	6	6	6	6
12 slot servers	12	12	12	12	12	12	12	12
16 slot servers	16	16	16	16	12	12	12	12
18 slot servers	18	18	18	18	12	12	12	12
MAXIMUM CAPACITY (GB)								
9 slot servers	18	36	72	72	24	96	6	12
12 slot servers	24	48	96	96	48	192	12	24
16 slot servers	32	64	128	128	48	192	12	24
18 slot servers	36	72	144	144	48	192	12	24

Memory

POPULATED DIMM SPEED (MHz)								
1 DIMM Per Channel	1333	1333	1333	1066	1066	1066	1333	1333
2 DIMM Per Channel	1333*	1333*	1333*	1066	800	800	1333*	1333*
3 DIMM Per Channel	800	800	800	800	n/a	n/a	n/a	n/a
* - supported with ROM update via ROM Based Setup Utility (RBSU). UDIMM support is only on 12-slot servers.								

NOTES:

- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities
- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, you still run at 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, you run at 1066MHz
- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- 95 Watt CPU's are required for 1333MHz DIMM speeds. All other CPU's are capable of up to 1066MHz
- References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

DIMM slot and configuration diagrams

Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

18 DIMM SLOTS (9 per CPU node)					
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G	1	G	Chnl 1
	2	D	2	D	
	3	A	3	A	
Chnl 2	4	H	4	H	Chnl 2
	5	E	5	E	
	6	B	6	B	
Chnl 3	7	I	7	I	Chnl 3
	8	F	8	F	
	9	C	9	C	

Standard memory configuration (1 CPU model)

- 6GB, consisting of three (3) 2GB dual-rank PC3-10600 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; empty	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; empty	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; empty	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory plus optional memory (1 CPU model)

- 54GB, consisting of three (3) 2GB RDIMMs plus six (6) 8GB RDIMMs
  - 3x 2GB dual-rank PC3-10600 RDIMMs
  - 6x 8GB dual-rank PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory replaced with optional memory (1 CPU model)
RDIMM maximum configuration

- 72GB, consisting of nine (9) 8GB dual-rank PC3-8500 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; 8GB DIMM	1	G; empty	Chnl 1
	2	D; 8GB DIMM	2	D; empty	
	3	A; 8GB DIMM	3	A; empty	
Chnl 2	4	H; 8GB DIMM	4	H; empty	Chnl 2
	5	E; 8GB DIMM	5	E; empty	
	6	B; 8GB DIMM	6	B; empty	
Chnl 3	7	I; 8GB DIMM	7	I; empty	Chnl 3
	8	F; 8GB DIMM	8	F; empty	

UDIMM maximum configuration (1 CPU model)

- 12GB, consisting of six (6) 2GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 2GB DIMM	2	D; empty	
	3	A; 2GB DIMM	3	A; empty	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 2GB DIMM	5	E; empty	
	6	B; 2GB DIMM	6	B; empty	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 2GB DIMM	8	F; empty	
	9	C; 2GB DIMM	9	C; empty	

Standard memory replaced with optional memory (2 CPU model)
RDIMM maximum configuration

- 192GB, consisting of twelve (12) 16GB quad-rank PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 16GB DIMM	2	D; 16GB DIMM	
	3	A; 16GB DIMM	3	A; 16GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 16GB DIMM	5	E; 16GB DIMM	
	6	B; 16GB DIMM	6	B; 16GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 16GB DIMM	8	F; 16GB DIMM	
	9	C; 16GB DIMM	9	C; 16GB DIMM	

UDIMM maximum configuration (2 CPU model)

- 24GB, consisting of twelve (12) 2GB dual-rank PC3-10600 UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	G; empty	1	G; empty	Chnl 1
	2	D; 2GB DIMM	2	D; 2GB DIMM	
	3	A; 2GB DIMM	3	A; 2GB DIMM	
Chnl 2	4	H; empty	4	H; empty	Chnl 2
	5	E; 2GB DIMM	5	E; 2GB DIMM	
	6	B; 2GB DIMM	6	B; 2GB DIMM	
Chnl 3	7	I; empty	7	I; empty	Chnl 3
	8	F; 2GB DIMM	8	F; 2GB DIMM	
	9	C; 2GB DIMM	9	C; 2GB DIMM	

NOTE: Capacity references are rounded to the common Gigabyte values.

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB

Following are memory options available from HP:

Memory	Registered DIMMs (RDIMMs)	
	HP 2GB 2Rx8 PC3-10600R-9 Kit	500656-B21
	HP 4GB 2Rx4 PC3-10600R-9 Kit	500658-B21
	HP 4GB 4Rx8 PC3-8500R-7 LP Kit	500660-B21
	HP 8GB 2Rx4 PC3-10600R-9 Kit	500662-B21
	HP 8GB 2Rx4 PC3-8500R-7 Kit	516423-B21
	HP 16GB 4Rx4 PC3-8500R-7 Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 1GB 1Rx8 PC3-10600E-9 Kit	500668-B21
	HP 2GB 2Rx8 PC3-10600E-9 Kit	500670-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator. NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient	

Storage

1-8 8 x SFF SAS Hot Pluggable Hard Drive Bays. Optical Media Bay not available for this configuration

1-4 4 x SFF SAS Hot Pluggable Hard Drives

A Optical Media Bay

5, 6 Blanks (HDD Bays will not function)

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
HP DL360 SL 12.7mm SATA DVD-RW	1	Slim Line Bay	Integrated SATA
HP DL360 SL 12.7mm SATA DVD NOTE: DVD/Optical drive options supported on 4 hard drive models only.	1	Slim Line Bay	Integrated SATA

Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SAS Hot Plug SFF Enterprise (ENT) Drives

	Quantity Supported	Position Supported	Controller
300GB 3G SAS 10K DP 300GB 6G SAS 10K DP 146GB 6G SAS 15K DP 146GB 6G SAS 10K DP 146GB 15K 2.5 SAS DP 146GB 3G SAS 10K DP 72GB 6G SAS 15K DP	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

Storage

72GB 3G SAS 10K DP
72GB 3G SAS 15K DP

SAS Hot Plug SFF Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 6G SAS 7.2K DP	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug SFF Midline (MDL) Drives

	Quantity Supported	Position Supported	Controller
500GB 3G SATA 7.2K 160GB 3G SATA 7.2K	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug SFF Entry (ETY) Drives

	Quantity Supported	Position Supported	Controller
250GB 3G SATA 5.4K 120GB 1.5G SATA 5.4K	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

SATA Hot Plug Midline (MDL) Solid State Drives

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD 120GB 3.0G SATA SSD	8	1-8	HP Smart Array P212/Zero Memory Controller HP Smart Array P212/256 MB Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller

Storage

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
50 Modular Smart Array	Up to 4	External	HP Smart Array P800/512 BBWC Controller
60 Modular Smart Array	Up to 4	External	HP Smart Array P212/256 MB Controller
	Up to 8	External	HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller HP Smart Array P411/512 MB BBWC Controller
70 Modular Smart Array	Up to 2	External	HP Smart Array P212/256 MB Controller
	Up to 4	External	HP Smart Array P800/512 BBWC Controller HP Smart Array P411/256 MB Controller
HP 2000sa Modular Smart Array Controller	Up to 4	External	HP SC08Ge Host Bus Adapter

Tape and Disk-Based Backup

NOTE: For a complete listing of compatible tape and disk-based backup offerings, please visit: www.hp.com/go/connect.

	Position Supported	Controller	Part Number
HP StorageWorks SCSI Tape Drives, External LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 960 LTO-3 Ultrium 920 LTO-4 Ultrium 1760 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Host Bus Adapter	412911-B21
HP StorageWorks USB Tape Drives, External DAT 40 USB DAT 72 USB DAT 160 USB 1U Rack-Mount Kit	External	USB 2.0 Port	N/A
HP StorageWorks SAS Tape Drives, External DAT 160 SAS LTO-2 Ultrium 448 SAS LTO-3 Ultrium 920 SAS LTO-4 Ultrium 1760 SAS LTO-4 Ultrium 1840 SAS 1U Rack-Mount Kit	External	HP Smart Array P212/Zero Memory Controller	462828-B21

Storage

HP StorageWorks SCSI Tape Automation, External DAT 72x10 Autoloader 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096 MSL6000	External	HP SC11Xe Host Bus Adapter	412911-B21
		HP U320e SCSI Host Bus Adapter NOTE: Recommended for MSL tape libraries.	AH627A
HP StorageWorks SAS Tape Automation, External 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096	External	HP Smart Array P212/Zero Memory Controller	462828-B21
HP StorageWorks Fibre Tape Automation, External MSL2024 MSL4048 MSL8096 MSL6000	External	Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for detailed connectivity information.	N/A
HP StorageWorks RDX Removable Disk Backup System RDX160 RDX320 RDX500	External	USB 2.0 Port	N/A
HP StorageWorks D2D Backup Systems D2D120 D2D130 D2D2500i D2D4000i	External	Embedded Network Controller	N/A

Power Specifications

HP 460W Power Supply Part Number - AC 460W PSU 80PLUS GOLD Rated	503296-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	208	200	220	230	240
Maximum Rated Output Wattage	460	460	460	460	460	460	460
Nominal Input Current (A rms)	5.5	4.5	2.6	2.5	2.4	2.3	2.2
Max Rated Input Wattage Rating (Watts)	526	520	505	505	503	503	503
Max. Rated VA (Volt-Amp)	548	542	527	527	524	524	524
Efficiency (%) at Max. Rated Output Wattage	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	1794	1773	1725	1725	1715	1715	1715

Optional Power Supplies

HP 750W Power Supply Part Number - AC 750W PSU 80PLUS GOLD Rated	512327-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	208	200	220	230	240
Maximum Rated Output Wattage	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.9	7.4	4.3	4.1	3.9	3.7	3.6
Max Rated Input Wattage Rating (Watts)	857	847	824	825	820	820	820
Max. Rated VA (Volt-Amp)	894	884	859	859	854	854	854
Efficiency (%) at Max. Rated Output Wattage	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	2925	2892	2812	2812	2797	2797	2797

Power Specifications

HP 1200W Power Supply Part Number - AC1200W PSU 80PLUS SILVER Rated	500172-B21						
Input Voltage Range (Vrms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	208	200	220	230	240
Maximum Rated Output Wattage	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	9.1	5.9
Max Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Max. Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%) at Max. Rated Output Wattage	86	87	89	89	89	89	89
Power Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Max. Inrush Current (A peak)	30	30	30	30	30	30	30
Max. Inrush Current duration (mS)	20	20	20	20	20	20	20
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

Technical Specifications

System Unit	Dimensions (H x W x D) (with bezel)	1.70 x 16.78 x 27.25 in (4.32 x 42.62 x 69.22 cm)	
	Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	39.5 lb (17.92 kg)
		Minimum (one hard drive, power supply, and processor installed)	32 lb (14.51 kg)
	Input Requirements (for Standard 460W PSU, see power specifications tables for detail on 460W, 750W and 1200W power supplies)	Rated Line Voltage	100 to 240 VAC
		Rated Input Current	4.5 Amps (at 120VAC) to 2.2 Amps (at 240 VAC)
		Rated Input Frequency	50 to 60 Hz
	BTU Rating	Maximum	1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC)
	Power Specifications	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor - Click on the system of interest. Example: DL360 G6 - Follow the instructions of the next screens.	
	Power Supply Output (per power supply)	Rated Steady-State Power	460 W (at 100 VAC), 460 W (at 200 VAC)
		Maximum Peak Power	460 W (at 100 VAC), 460 W (at 200 VAC) NOTE: See Power Supply Specifications tables for complete details on 460W PSU and optional 750W and 1200W Power Supply Options.
	System Inlet Temperature	Operating	10° to 35° C (50° to 95° F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8° F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10° C/hr (18° F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30° C (86° F).
		Non-operating	-40° to 70° C (-40° to 158° F). Maximum rate of change is 20° C/hr (36° F/hr).
	Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28° C (82.4° F) maximum wet bulb temperature, non-condensing.
		Non-operating	5 to 95% relative humidity (Rh), 38.7° C (101.7° F) maximum wet bulb temperature, non-condensing.

Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23° C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Idle (Single Processor, Note 1)

L WAd	4.3 B Average Bystander
L pAm	27 dBA

Operating

L WAd	4.8 B Average Bystander
L pAm	32 dBA

Idle (Dual Processors, Note 2)

L WAd	4.9 B Average Bystander
L pAm	33 dBA

Operating

L WAd	5.4 B Average Bystander
L pAm	38 dBA

NOTES:

Note 1) Configuration tested included an Intel X5520 quad-core 2.27GHz processor, one 72GB SAS HDD, four 250GB 5400 rpm SATA hard drives, six system fans, three 4GB(2x2GB) DIMM's, and one power supply (1P SKU).

Note 2) Configuration tested included two Intel X5520 quad-core 2.27GHz processors, one 72GB SAS HDD, four 250GB 5400 rpm SATA hard drives, eight system fans, six 4GB(2x2GB) DIMM's, and one power supply (2P SKU).

Note 3) Values are subject to change without notification and are for reference only.

Note 4) Performance of system, options, and ancillary equipment will vary depending on the system configuration.

Note 5) Levels presented do not account for non-Hewlett-Packard installed hardware.

Emissions Classification (EMC)	FCC Rating	Class A
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22; K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Smart Array P410i Controller	Dimensions (not including bracket)	Low Profile PCIe Form Factor 7.5 in x 9.5 in x 2.25 in (19.05 cm x 24.13 cm x 5.72 cm)
	Disk Drive and Enclosure Interface - Transfer rate	6Gb/s SAS (Serial Attached SCSI) 3Gb/s SATA (Serial ATA)
	SAS Connectors	2 internal (Mini-SAS) x8 wide port connectors
	Cache Memory Speed	DDR2-800MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth.
	Server Interface	x8 5G PCIe 2.0 provides 4GB/s maximum bandwidth
	SAS Speed	x8 3G SAS provides 2.4GB/s maximum bandwidth
	Cache Memory	40-bit 256MB ECC protected cache (72-bit 512MB BBWC module upgrades available); transportable with battery-backed upgrade
	Logical Drives Supported	Up to 64 logical drives
	Maximum Logical Drive Capacity	Greater than 2TB
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 6, 6+0 (Advanced Data Guarding) NOTE: RAID 6, 6+0 can be enabled with either • Minimum of 256 MB cache, Battery kit and Smart Array Advanced Pack License key option upgrades • Minimum of 512 MB BBWC and Smart Array Advanced Pack License key option upgrades RAID 5, 5+0 (Distributed Data Guarding) NOTE: The 256 MB is required to enable RAID 5, 5+0 support of the Smart Array P410i RAID 1+0 (Striping & Mirroring) RAID 0 (Striping)
	Upgradeable Firmware	Upgradeable Firmware with recovery ROM feature

Embedded NC382i Dual Port Multifunction Gigabit Server Adapter	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX IEEE 802.3ad 1000Base-TX IEEE 802.1p 100Base-TX IEEE 802.1q 100Base-TX	
	Data Transfer Method	PCI Express, four lanes (x4)	
	Network Transfer Rate	10Base-T (Half-Duplex) 10Base-T (Full-Duplex) 100Base-TX (Half-Duplex) 100Base-TX (Full-Duplex) 1000Base-TX (Half and Full-Duplex)	10 Mb/s 20 Mb/s 100 Mb/s 200 Mb/s 2000 Mb/s

Technical Specifications

Connector	Two RJ-45	
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
	100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)
	1000BaseTX	Category 5 or higher UTP; up to 328 ft (100 m)

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.